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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/736,253 | 12/15/2003 | Thomas E. Creamer | BOC9-2003-0090 (461) | 6426 |

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| EXAMINER | |
|---|---|
| NG, EUNICE | |

| ART UNIT | PAPER NUMBER |
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| 2626 | |

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| 06/11/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/736,253 | CREAMER ET AL. | |
| | Examiner | Art Unit | |
| | Eunice Ng | 2626 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *24 March 2008 and 24 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,2,4-8,10-14 and 16-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-8,10-14 and 16-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/24/08 has been entered.

### *Response to Amendment*

2. In response to the Office Action mailed 1/24/08, Applicants have submitted an Amendment, filed 3/24/08, amending claims 1, 6, 7, 12, 13, 18, 19 and 21, without adding new matter, and arguing to traverse claim rejections.

### *Response to Arguments*

3. Applicant's arguments with respect to newly amended claims 1, 6, 7, 12, 13, 18, 19 and 21 have been considered but are moot in view of the new ground(s) of rejection, below.

4. Applicant's arguments filed 3/24/08 have also been fully considered but they are not persuasive: Applicants submit that their invention differs from Frantz in that "the inaudible portion of the voice stream is not deleted, but rather replaced by the determined biometric information" (p. 10, 3rd paragraph). However, as discussed in the previous Office Action (dated 1/24/08), Frantz teaches at col. 1, ll. 33-44, "Audio coding algorithms or schemes...based on

acoustic measurements as a method for identifying those portions of the audio transmission that are inaudible to [the human] ear and need not be transmitted...delete [replace] the inaudible portion...the available bandwidth can be used as a data channel [i.e. for embedding information in place of the inaudible portions]." This still reads on claims 1, 7 and 13, which recites replacing identified inaudible portions of the voice stream with the determined biometric information.

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 2, 4-8, 10-14 and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petrushin, US Patent No. 7,222,075, in view of Frantz, US Patent No. 6,904,264.

Regarding claims 1, 7 and 13, Petrushin teaches a method, system, and machine readable storage, for providing biometric information over a telephone call established between a speaker and a subscriber comprising: subscribing a voice analysis service by the subscriber (col. 4, ll. 43-54, teaches the "present invention...may be useful and valuable applications for business purposes...[r]ecognizing emotions may help call-center personnel deal with angry or emotional callers…alert businesses to persons who may be attempt to cheat or defraud them…many business [subscriber] uses for a system or a method that detects emotions in persons");

receiving a voice stream from the speaker, said voice stream including a plurality of voice signals of the speaker (col. 4, ll. 58-61, teaches “detecting the emotional state of a caller [speaker] in telephone call center conversations [voice signals]”);

invoking the voice analysis service by the subscriber; providing the voice signals to the voice analysis service (col. 4, ll. 43-54, teaches the "present invention...may be useful and valuable applications for business purposes...[r]ecognizing emotions may help call-center personnel deal with angry or emotional callers…alert businesses to persons who may be attempt to cheat or defraud them…many business [subscriber] uses for a system or a method that detects emotions in persons”; and Fig. 17; col. 14, ll. 1-10, teaches "a voice signal received from a person during a business event...voice signals may be obtained…voice signals analyzed...to determine a level of emotion or nervousness of the person”);

and determining biometric information from the voice signals of the speaker by the voice analysis service (col. 3, ll. 11-16, teaches “providing a speech signal [voice information]”; col. 3, ll. 33-38, teaches “calculating statistics of the speech…logic…for classifying the speech as belonging to [determining] at least one of a finite number of emotional states [biometric information]”).

Petrushin does not explicitly teach, but Frantz teaches: identifying inaudible portions in the voice stream using a psychoacoustic model; and modifying said voice stream by encoding the determined biometric information and replacing the identified inaudible portions of the voice stream with said encoded information (col. 1, ll. 33-44, teaches “Audio coding algorithms or schemes…based on acoustic measurements as a method for identifying those portions of the audio transmission that are inaudible to [the human] ear and need not be transmitted…delete

[replace] the inaudible portion…the available bandwidth can be used as a data channel [i.e. for embedding information in place of the inaudible portions]").

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of Petrushin with Frantz because Frantz teaches that this would "[permit] significant audio compression and conservation of bandwidth without degrading audio quality" (col. 1, ll. 38-44).

Petrushin teaches transmitting the modified voice stream to the subscriber over the established telephone call (col. 3, ll. 37-38, teaches the "system also comprises logic for outputting an indication of the at least one emotional state"; col. 3, ll. 51-52, teaches "an output device coupled to the computer for notifying a user of the emotional state detected in the voice signal"; see also col. 4, ll. 43-61).

Regarding claims 2, 8 and 14, Petrushin teaches said determining step comprising: extracting at least one attribute from the voice signals (col. 3, ll. 13-15, teaches "extracting at least one acoustic feature [attribute] from the speech [voice] signal");

comparing the at least one attribute with voice metrics (col. 3, ll. 48-53, teaches "a database of speech signal features and statistics [voice metrics] accessible to the computer for comparison with features of the voice signal); and

generating the biometric information based upon said comparing step (col. 3, ll. 48-53, teaches, "a database of speech signal features and statistics accessible to the computer for comparison with features of the voice signal [comparing step] and an output device coupled to the computer for notifying a user of the emotional state [biometric information] detected in the

voice signal").

Regarding claims 4, 10 and 16, Petrushin teaches wherein the biometric information specifies at least one of an indication of voice level, stress level, voice inflection, and an emotional state (col. 3, ll. 20-22, teaches "outputting an indication of the at least one emotional state [biometric information] in human-recognizable format").

Regarding claims 5, 11 and 17, Petrushin teaches wherein the subscriber receives the voice signals, and the associated biometric information, both of the speaker, substantially concurrently over the call (col. 13, ll. 1-6, teaches "emotion of the caller [biometric information] would be determined during [substantially concurrently] the caller's conversation [voice signals] with the technician answering the call. The emotion could then be relayed [substantially concurrently] to emergency personnel, i.e., police, fire, and/or emergency personnel, so they are aware of the emotional state of the caller").

Regarding claims 6, 12 and 18, Petrushin teaches extracting the embedded biometric information from the transmitted voice stream (col. 3, ll. 37-38, teaches the "system also comprises logic for outputting an indication of the at least one emotional state [biometric information]"; col. 3, ll. 51-52, teaches "an output device coupled to the computer for notifying a user of the emotional state detected in the voice signal"; see also col. 4, ll. 43-61); decoding the extracted biometric information; and presenting the information to the subscriber (col. 10, ll. 45-55, teaches "In a call center environment…annotations and decisions can be saved and the

results output [presented]…output may take the form of a signal or message on a computer, a printed message from a printer, a video display or output device connected to a computer, an audible signal or tone output from an audio output device, or even an alarm").

Regarding claims 19-21, Petrushin teaches wherein at least one other speaker is connected to the call, and wherein the method further comprises: prior to said receiving step, selecting one among the voice signals of the speaker and the voice signals of the other speaker to be analyzed; and performing the steps of receiving, determining, generating, identifying, encoding, and transmitting only for said selected speaker (col. 12, line 65 – col. 13, line 6, teaches, "[a]n emotion of the caller [selected speaker] would be determined during the caller's conversation with the technician [other speaker] answering the call. The emotion could then be relayed...so they are aware of the emotional state of the caller [selected speaker]"; col. 4, ll. 57-60, teaches embodiments "used for [detecting] the emotional state of a caller [selected speaker] in telephone call center conversations").

The rest of the limitations of claims 19-21 are the same as or similar to those of claims 1, 7 and 13, rejected above, and thus are rejected for the same reasons.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eunice Ng whose telephone number is 571-272-2854. The examiner can normally be reached on Monday through Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. N./
Examiner, Art Unit 2626

/David R Hudspeth/

Supervisory Patent Examiner, Art Unit 2626